

## **REMARKS**

Favorable reconsideration of this application, in view of the foregoing amendments and following Remarks, is respectfully requested.

Referring to the Sections as set forth in the "Detailed Action" section of the first Official Action mailed 10/06/2005:

### **Claim Rejections – 35 U.S.C. §112**

The Examiner has rejected claim 2 under 35 U.S.C. §112, 2<sup>nd</sup> paragraph because of the second reference in claim 2 to claim 1, as essentially being redundant with the dependency of claim 2 on claim 1, and therefore allegedly creating an indefiniteness. The present amendment to claim 2 thus strikes this second reference to claim 1 to overcome the objections of the Examiner.

Claim 3 has been rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph as allegedly being indefinite due to the recitation of claim parameters linked by reference to FIGS. 1 and 2 to provide the antecedent basis for terms in the claim. Accordingly claim 3 has been cancelled in favor of new claim 21 which is, as will be seen, cast in conventional claim format to incorporate parameters referenced in the description at pages 7 and 8 with reference to drawing FIGS. 1 and 2. Accordingly, it is believed that claim 21 clearly overcomes the Examiner's objections to the format of claim 3, but provides claim coverage of approximately the same scope as intended by claim 3 as filed.

### **Claim Rejections – 35 U.S.C. §102**

The Examiner has rejected claims 1, 5 through 8, 13 through 15 and 18 under 35 U.S.C. § 102(b) as being anticipated by Phillips 5,582,006, alleging that restrictor 16 of Phillips is in the form of a venturi and solely relying on the figures in the Phillips drawing for such a

disclosure, and relying solely on the doctrine of inherency to support the allegation that the Phillips restrictor 16 would control turbulence.

The Examiner also rejects claims 1, 6 through 8 and 13 through 15 under 35 U.S.C. § 102 as being anticipated by the Katayama et al. Patent 4,285,534, again relying for or alleged disclosure of a "restrictor 10 in the form of a venturi" solely on the figures in the drawings of Katayama, and again relying solely on the doctrine of inherency to support the allegation that restrictor 10 would control turbulence as set forth in claim 6.

It is respectfully submitted that the foregoing rejections are in error in both fact and law for reasons set forth hereinafter.

#### **Applicable Law - Anticipation**

It is axiomatic that, in order to "anticipate" a claim, "all the elements in the claim (or possibly their equivalents...) must have been disclosed in a single prior art reference or device." *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 731 F.2d 840, 845, 221 U.S.P.Q. 657, 661 (Fed. Cir. 1984). Moreover, "it is incumbent upon the Examiner to identify wherein each and every facet of the claimed invention is disclosed in the applied reference." *Ex parte Levy*, 17 U.S.P.Q. 2d 1461, 1462 (BPAI 1990). It is respectfully submitted that none of the cited reference patents disclose or suggest all the elements of independent parent claims 1 and 15 as filed or amended nor has the Examiner properly identified wherein, in any one of these cited patents, it allegedly teaches "each and every facet" of the invention as claimed.

As further set forth in M.P.E.P. § 2131 (pgs. 2100-54 and 2100-55):

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegall Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim."

*Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q. 2d 1566 (Fed. Cir. 1990).

As further pointed out in M.P.E.P. § 706.02 (pgs. 700-10).

"The distinction between rejections based on 35 U.S.C. 102 and those based on 35 U.S.C. 103 should be kept in mind. Under the former, the claim is anticipated by the reference. No question of obviousness is present. In other words, for anticipation under 35 U.S.C. 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly. Any feature not directly taught must be inherently present. Whereas, in a rejection based on 35 U.S.C. 103, the reference teachings must somehow be modified in order to meet the claims. The modification must be one which would have been obvious to one of ordinary skill in the art at the time the invention was made."

It is further noted that the Examiner has attempted to predicate the § 102 rejection solely on the basis of "inherency", and hence "inherency" is an issue as to this rejection and indeed is the foundation for the rejection. The applicable law regarding the Examiner's misplaced reliance on inherency based solely on the drawing figures is treated subsequently in detail hereinafter.

#### **Prior Art Rejection – Background**

It is respectfully submitted that it may be helpful firstly to review the problems to which the invention is directed, namely, fluid-borne noise reduction systems and apparatus used in both the high pressure and low pressure sides of prior art power steering systems. In the high pressure side this most often comprises a flexible metal or plastic tube, commonly called a "tuning cable", placed inside a section of volumetrically compliant hose and/or various forms of

"restrictors" that permit flow but restrict flow while reducing fluid-borne noise, such as those shown in the cited Phillips '006 and Katayama '534 patents, both initially cited by applicants.

As pointed out on pages 1 and 2 of the instant application description, in the low pressure side of prior art power steering systems, the type of "tuning" device used is one that does not employ the tube-within-tube tuning cable concept but rather simply a restrictor in the return hose line. Such restrictors usually are of the constant-diameter-passageway type shown as restrictor 10 in Katayama et al. '534. Such restrictor elements are inserted in a selected location in the lower pressure (100 to 150 psi) return line flexible hose to form a flow barrier that helps "balance" pressures in the power steering system and thereby prevent "shudder" under certain operating conditions, as is well understood in this art.

In accordance with the present invention, it was noticed that under certain conditions the return side restrictor produced an audible "hiss" noise that could be heard in the passenger cab even while the noise reduction system was absorbing pulsations of the pressure fluid and thereby quieting this other source of noise. It was speculated by the inventors that the cause of the "hiss" noise might be the abrupt internal angle (chamfer) at the entrance to the flow-through, constant diameter passage of the restrictor as well as the abrupt angle at the exit of this flow-through passage, which features are characteristic of the restrictors 16 and 10 respectively shown in Phillips '006 and Katayama et al. '534. Possible further structural contributors to this "hiss" noise phenomenon might be the surface finish of the flow-through passage and possibly sharp edges at the entrance and exit of the thus passage, as well as the abrupt diameter differential between the hose I.D. and the restrictor passage I.D. Any or all of these parameters were thought to have contributed to making the fluid-flow go turbulent in the vicinity of the exit

of the restrictor flow-through passage, thereby producing the annoying "hiss" noise.

Assuming that the "hiss" noise problem was indeed due to the creation of a turbulence condition in the fluid flow just before or after the exit of the restrictor, ancillary problems would be excessive pressure drop and heat generated by such turbulence, as well as potential cavitation wear on the wall of the tubing. Moreover, these ancillary problems could be present even in the absence of the turbulence reaching a level sufficient to produce the annoying audible "hiss" sound.

Accordingly, applicants' novel solution to these problems was to provide a new form of restrictor for use in a noise-reduction fluid conduit subject to pressure pulsations. Like the conventional restrictors of the prior art, applicants' restrictor has a central flow-through passage open at its opposite axial ends. However, this flow-through passage is configured in the form of a classic venturi instead of the conventional constant diameter flow-through passage as seen in Phillips '006 and Katayama et al. '534. In its presently preferred but exemplary embodiment of applicants' invention, the restrictor has a flow-through passage configured as a venturi having a shallow convergent (in the direction of fluid flow) tapered inlet passage, a constant diameter throat passage and a shallow divergent (in the direction of fluid flow) tapered outlet passage. The taper angle preferably ranges between 4° and 15° relative to the central longitudinal axis of the restrictor. As will be further seen from applicants' disclosure, the venturi restrictor throat passage has a relatively short axial length that is much less than that of either the inlet or outlet passages. Providing a restrictor to serve the conventional restrictor function but in this improved form has enabled applicants to minimize or eliminate the aforementioned "hiss" noise problem and/or minimize turbulence in or immediately downstream of the restrictor outlet

passage and thereby reduce or eliminate the other concomitant deleterious effects of turbulence in the system apparatus.

**Discussion of Cited References Relied Upon in the Section 102 and 103 Rejections**

**Phillips 5,582,006**

Phillips provides a central restrictor 16 which he terms an “inductive flow member”. This inductive flow member "restrictor" 16 is shown in the two different embodiments of FIGS. 1 and 4. The description of the '006 patent does not refer to the entrance or exit passages of the restrictor nor in any way describes their geometry.

Column 6, lines 35 and 36 of Phillips does reference the value or term "L" in the filter network circuit analysis analogy as being “an inductive flow member having a 0.1 in. diameter 4 in. in length” but is indefinite and confusing as to whether or not these are dimensions for the inductive flow member 16 of FIGS. 1 and/or 4.

Column 4, lines 36-42 of Phillips goes on to describe the "inductive flow member 16" as being formed in a tubular manner and comprises an external rib section 46. The description further states at column 4, lines 37-43: "It is inserted into a selective location to form a flow barrier between first and second volumetrically compliant members 12 and 14, respectively, whereby flow is conveyed to the second volumetrically compliant member 14 via bore 17 formed in the inductive flow member 16."

The foregoing is the full extent to which the Phillips '006 patent description teaches or specifies the construction and geometry of the inductive flow member 16 of the FIGS. 1 and 4 embodiments.

Nevertheless the Examiner alleges that Phillips discloses a restrictor 16 in the form of a venturi where the ends of the restrictor can be seen in the figures to be expanding in

opening diameter at the ends from a smaller diameter throat in the middle" (underscoring added). The Examiner then goes on to state that this "is a convergent divergent type of restrictor".

However, it is clear from the drawings that the inlet and exit ends of the passage 17 in restrictor 16 are really short length bevels or chamfers and are formed at steep entrance and exit angles. If indeed, arguendo, the drawing figures are to be relied upon then Phillips restrictor has taper angles of some 20°-30°. Moreover, nothing is said in Phillips '006 about any turbulence-eliminating effects of restrictor 16. Rather, column 6, lines 50-60 refers to  $R_2$  as being a "function of flow rate which can be evaluated according to coefficients and equations for turbulent flow", thereby possibly suggesting that the Phillips '006 restrictor is designed to produce turbulent flow. However, as with the Examiner's reliance on disclosure of Phillips '006 relative to applicants' invention and claims, this is also mere speculation.

Accordingly, the Examiner's reliance on Phillips '006 for the alleged disclosure of restrictor 16 being in the form of a "venturi", and one that inherently would control turbulence as set forth in page 3 of the Action, is by necessity solely an inherency ground of rejection expressly based solely on the drawing disclosure of Phillips '006. However, nowhere in the drawing description of the '006 patent is it stated or implied that any of the drawing figures 1 through 4 are drawn to scale. However even, if the drawings figures 1 and 4 of Phillips '006 are enlarged and impermissibly projected as though they were drawn to scale, the inlet and outlet bevels at ends of the long central bore have a large taper angle of some 20°-30° that is typical of the prior art restrictors, and would be the antithesis of applicants' invention. In any event, reliance solely on the drawing disclosure is impermissible in fact and in law in the case of Phillips '006 both for the foregoing factual reasons as well as for the legal reasons regarding drawing disclosures set forth in the discussion hereinafter.

**Katayama et al. 4,285,534**

Katayama et al. describes in column 2, lines 45-47 the restrictor 10 shown in FIGS. 1 and 2, as a "throttling means including orifice and nozzle. The throttling means 20 has a bore 13 of a diameter smaller than that of the flexible pipe 7...". At column 2, lines 59-63, the '534 patent states: "The diameter of the bore 13 of the throttling means 10 is, preferably, approximately equal to that of each bore 11 and 12 of the throttling materials 8 and 9, and the means 10 is pinch-fixed by means of an orifice socket 18." At column 4, lines 57-64, the '534 patent further states: "...whereas the ratio  $H/G$  of the open area  $H$  of the bore 13 of the throttling means 10 to the sectional open area  $G$  of the bore of the flexible pipe 7 can be easily made to  $4/32$  or less, and the ratio in respect of the throttling can be decreased to decrease the compression rate as well as increase the weight absorption effect of the flexible pipe." At column 4, lines 67-68 continuing on to column 5, lines 1-3, the '534 patent finally states: "...since the throttling means having the bore of a small diameter is provided within the flexible pipe having the bore of a diameter larger than that of the connection metal fittings so as to decrease the compression rate."

The foregoing is all that is stated about the geometry and dimensions of restrictor 10 in the Katayama et al. '534 patent. The entrance and exit bevels or chamfers of throttling means (restrictor) 10 are neither numbered nor described, leaving one to rely solely (and erroneously) upon the drawings in the '534 patent. Even so arguendo, the central, constant diameter passage would appear to be over about nine times the axial length of the inlet and outlet bevels, which are again shown to have an approximately  $30^\circ$  taper angle. However, again there is nothing in the '534 patent stating that these drawing figures are drawn to scale. Indeed, and expressly to the contrary, the "Brief Description of the Drawings" appearing in column 1, lines



47-55, states that FIG. 1 and FIG. 2 are each a schematic sectional view, which is the antithesis of a drawing made to engineering scale.

Moreover, nothing in the '534 patent is stated with regard to the restrictor 10 having any effect on turbulence in the fluid flow ahead of, therethrough nor thereafter, the '534 patent being completely silent in this regard. Moreover, there are no dimensional values specified in the '534 patent for the length of the constant diameter through-passage nor for the inlet and outlet bevels or chamfers. The '534 patent is completely silent as to these geometric features of the restrictor 10 and also completely silent as to any disclosure of the “hiss” noise or turbulence problems to which applicants' invention is directed, as set forth previously hereinabove.

In view of the foregoing, it is respectfully submitted that the Examiner's assertion that Katayama '534 discloses a restrictor 10 in the form of a venturi is clearly in error factually. Again, the Examiner expressly relies on only the drawing disclosure i.e., ("can be seen in the figures") to support a finding of inherency to control turbulence. Such reliance on a schematic drawing disclosure is clearly in error in fact and in law. The drawings of the '534 patent do not support the Examiner's statement that this patent discloses a restrictor 10 in the form of a “venturi” or a “convergent divergent” type of restrictor, much less one that would inherently control turbulence.

**Moseley, Jr. et al. 3,894,562**

Moseley et al. '562 does disclose a venturi type fluid flow control device but one that is expressly designed to utilize (or create) the phenomena of cavitation to limit the flow rate of a liquid to a constant value once the inlet pressure rises to a predetermined value. A central small diameter flow-through passage 28 of the Moseley et al. device 10 is called a “cavitation

chamber”, per column 2, lines 25-28 and "is a specially designed constriction which will permit the liquid flowing through it to cavitate when the liquid reaches a certain velocity." (underscoring added). In addition, the '562 patent is completely silent as to what effect the cavitational operational characteristics of this flow limiting device might have on noise generation or reduction. Presumably with cavitation occurring in cavitation chamber 28 in order to limit the maximum flow rate of the shower head shown in FIG. 8 or in the pipe connection shown in FIG. 9, a rather noisy operation would ensue, which again is the antithesis of the result sought by applicants.

Of course there is nothing in the Moseley et al. '562 patent indicating this flow limiting device would be useful as a restrictor in a pulsation-absorbing fluid flexible pipe such as that employed in a power steering system. In such systems, the restrictors are not designed to limit the flow of the liquid being conducted to a predetermined rate once the pressure of the liquid entering the inlet opening reaches a predetermined amount. Such an effect operationally provided by the Moseley et al. device would probably render it inoperable in a power steering system, and indeed dangerous for use therein. Thus, if the restrictors in the Phillips or Katayama were to be constructed following disclosure of Moseley, the power steering systems disclosed in Phillips or Katayama would become inoperable and dangerous. Moreover, there is a complete lack of recognition in Moseley et al '562 of the problem to which applicants' invention is directed, much less applicants' solution in terms of the combination of a venturi restrictor and a pulsation-absorbing flexible pipe for noise reduction and/or turbulence reduction.

#### **Van Ruiten 5,728,981**

Van Ruiten '981 has nothing to do with a venturi type restrictor combined with a tuning cable, but rather shows a constant diameter flow-through passage in a restrictor 24' in FIG

5 the exterior configuration of which is of the conventional "dog bone" geometry. Although, the tuning cable 45' is apparently held in the mouth of the restrictor by clamping pressure from the collar 63, it is new to provide a venturi restrictor 64, as shown by applicants in FIG. 7, made of plastic with a plastic tuning tube 66 inserted into the mouth of the tapering passage 28' as called for in claims 11, 12 and 20 herein. There is no disclosure or suggestion in Van Ruiten of a plastic restrictor or plastic tuning cable, much less the venturi restrictor as called for in these claims.

#### **Reliance on Drawing Disclosures of the Cited Patent References Improper in Fact and Law**

The Examiner undoubtedly will appreciate from the foregoing that the problem to which the present invention is directed is not described or suggested by any of the cited patent references. Moreover, the drawings in the cited patents, which are all the Examiner apparently expressly relies upon for his § 102 rejections as well as for his § 103 rejections, simply do not teach or suggest applicant's claimed invention, nor could they, to those skilled in the art who had never seen applicant's disclosure. The cited patent drawings occur in references that in no way are directed toward the problem to which the applicant's invention is directed. Therefore these patent drawings must be viewed in a teaching vacuum insofar as applicant's invention as claimed is concerned. Although a drawing is available as a reference for all that it teaches a person of ordinary skill in the art, the drawings in the cited patent references are clearly of no avail in anticipating or rendering applicant's invention obvious as claimed.

Moreover, it is improper under the applicable statutory and case law for the Examiner even to attempt to rely on the drawing disclosure of the cited patents for a teaching relevant to applicant's disclosure and claims. First of all, nowhere in these patents do they state

the figures in the drawings are drawn to scale. Absent any written description in the specification of these patents of applicant's claimed inlet, throat and outlet passage relationships and related parameters, much less turbulence reducing configuration, a rejection based on measurements of these drawing figures is clearly improper. *In re Chitayat*, 56 CCPA 1343, 161 U.S.P.Q. 224 (1969).

In the CCPA case (1963) of *In re Wilson and Corns*, 312 F.2d 449, 136 U.S.P.Q. 188, at 192, the Court stated:

Both the Patent Office and appellants have engaged in what appears to us to be a somewhat futile attempt to measure the thickness of Weiss coil strip and the Weiss lap spacing in their respective attempts to show whether particular lap spacing recitations included in the claims now before us are or are not distinguishable from those disclosed by Weiss. Appellants, for example, conclude, in typically precise fashion, that the Weiss lap spacing is "about 30% to 60% greater than applicants' top spacing." Patent drawings are not working drawings and this argument is predicated, moreover, on a greatly enlarged section of a small drawing obviously never intended to show the dimensions of anything. We do not find it persuasive. (underscoring added)

See also *In re Chitayat*, where the Court, in citing *In re Wilson et al*, further stated, at 226:

In view of the absence in Frank's specification of any written description of the quantitative value of the image displacement relative to fiber diameter, the arguments based on mere measurement of the drawings appears to us of little value.

With respect to the rejection of claim 1 as being obvious, solely, in view of the drawings of any one of the three cited patent references, the Examiner's attention is also respectfully directed to the case of *In re Meng and Driessen*, 181 U.S.P.Q. 94 (CCPA 1974). In *Meng*, the application claims were directed to a package and a method for producing a package

containing a stack of individual flexible product slices wherein the lateral edges of adjacent slices were offset relative to one another to provide gripping portion for easy separation. The Examiner rejected these claims as being obvious in view of "Beck" patent, which appeared to show in one drawing (FIG. 10) packaged product slices having offset edges but did not discuss such edges, in view of "Palmer" which disclosed a method for packaging sliced products. The Board of Appeals affirmed this rejection.

Reversing the Board, the CCPA at 96 stated:

The issue to be decided is, "Would one of ordinary skill in the art, presented with that problem and [the reference] – and totally unaware of appellants' solution – be led to do what appellants did?" We think not.

Continuing at 97, the Court said:

But "whether one would recognize the solution to the aforementioned problem" [in the reference] *is* controlling. It begs the question to say that the claimed package is "illustrated by FIG. 10." A claimed invention is "illustrated," in the sense of 35 U.S.C. 103, by a drawing which, independently of an applicant's disclosure, would lead those skilled in the art to recognize the claimed invention as the solution to the problem it solved, i.e., by a drawing which renders the invention "obvious." In our view, the claimed package is not illustrated in FIG. 10. . .

\* \* \*

We are aware, of course, that a claimed invention may be anticipated or rendered obvious by a drawing in a reference, whether the drawing disclosure be accidental or intentional. [citation omitted] But, as the solicitor correctly states, a drawing is available as a reference *for all that it teaches* a person of ordinary skill in the art. The drawing here, FIG. 10 of Beck, simply would not, in our view, teach or suggest the claimed invention to those who had never seen appellants' disclosure. \* \* \* We are further stayed from a holding of obviousness when, as here, the drawing occurs in a reference in no way directed toward the problem

involved, and the drawing must be viewed in a teaching vacuum so far as the invention before us is concerned.

As we said in [citation omitted], references must be evaluated by ascertaining the facts fairly disclosed therein as a whole. So evaluated, the Beck reference does not render the product claims before us obvious. (emphasis in text)

To paraphrase the Court in *Meng*, it is respectfully submitted that the invention claimed in the present application is not "illustrated" in the sense of 35 U.S.C. §102 or 103 by the drawings in any of the cited patent references since such drawings do not "lead those skilled in the art to recognize the claimed invention as the solution to the problem it solved." These reference patent drawings each occur in a reference which is not directed to the problems sought to be solved, and therefore these drawings must be viewed in a vacuum insofar as the present invention is concerned. Evaluating the cited reference patents for the facts "fairly disclosed therein as a whole," it is submitted that these reference patents, whether considered either alone or in combination, do not render the present invention anticipated or obvious.

It will be appreciated, of course, that the foregoing discussion of the cited patent references as initially applied to claim 1 is equally applicable, if not more so, to the remaining claims 2-20 as filed.

In the instant rejection, it is respectfully submitted that the Examiner's express reliance upon the drawing disclosure of the cited references clearly violates the decisional law enunciated in the foregoing long line of case law. Therefore the Examiner's rejections, as based solely on this ground, should be withdrawn as initially applied, and certainly cannot be properly re-asserted against claims 1, 2, and 4-20 as amended, nor new claims 21-23 as discussed hereinafter. Simply stated, in the absence of any written description of the venturi restrictor

construction and pulsation-absorbing flexible pipe combination disclosed and claimed by applicant, or recognition of the function or mode of operation in question, the disclosures provided by mere drawings of the references are of no value in order to arrive at applicant's teachings to those of ordinary skill in the art.

**Application Claims 1-20 as filed and Application Claims 1, 2 and 4-20 as Amended and New Claims 21-23 Not Anticipated By Cited References**

With the foregoing in mind it will now be apparent that the cited patent references do not disclose, teach or otherwise anticipate or suggest a venturi restrictor for use in a pulsation absorbing flexible pipe as set forth in apparatus claims 1-14 as filed, nor in method claims 15-20 as filed, contrary to the Examiner's assertion to this effect on pages 2, 3 and 4 of the Action. Indeed, none of these three cited patent references, each taken as a whole, could possibly properly or lawfully "anticipate" these claims. None of these patents clearly disclose the feature of a restrictor configured as a venturi, such that under the pressure and fluid flow conditions in which the claimed restrictor is to be used, turbulence is minimized in the restrictor outlet passage and/or immediately downstream thereof. Claim 1, as now amended, further distinguishes from the prior art under §102 in calling for the venturi inlet, throat and outlet passages as being constructed and arranged with a shallow taper angle in said inlet and outlet passages, and said throat passage having relatively short axial length much less than that of either the inlet or outlet passages. Moreover, this novel restrictor is provided in a novel combination with a pulsation absorbing flexible pipe in claim 1 as now amended. Claims 2 and 4-14 are directly or successively dependent on claim 1 and have been amended to conform antecedents and to distinguish patentably over the cited references under both §102 and 103 for at least the same reasons as claim 1. Moreover, these claims specify further novel features in the combinations as

claimed not found in any of the cited references, and thus are not anticipated because of these further recited novel features.

Method claim 15 is an independent method claim that specifies, inter alia, in step (b), designing the restrictor venturi inlet, throat and outlet so as to conduct fluid thereto in the operating system of a pressure fluid device by matching the characteristics of the fluid, the operational pressures, fluid density and other system parameters such that the venturi operates below the lower critical value of the Reynolds number of the fluid flowing through the restrictor to thereby minimize or eliminate noise by minimizing or eliminating turbulence in the fluid in the restrictor outlet and/or exiting immediately downstream from the venturi restrictor. Nothing in the prior art anticipates or suggests this novel noise-reducing method step. Method claims 16-20 are directly or successively dependent on claim 15 and likewise distinguish patentably for at least the reasons set forth with respect to claim 15.

New claim 21, as indicated previously, is a re-write of cancelled claim 3 but cast in proper format to overcome the Examiner's objection under §112. Claim 21 is a specific, relatively narrow apparatus claim that specifies the values of the parameters found in the preferred form of the restrictor provided by applicants and hence is clearly novel over the prior art in combination as cited in the parent claim 1. New claims 22 and 23 are successively dependent on claim 6 and place the restrictor in the return line of the power steering system (claim 22), or call for a second restrictor of like construction disposed in the high pressure side of the power steering system (claim 23). Claims 22 and 23 are thus novel and patentable for at least the same reasons as their parent claims 6 and 1 referenced above.



### **Claim Rejections Under 35 U.S.C. §103 – Pages 4 and 5 of the Action**

The Examiner has rejected claims 2-4, 9, 10, 16, 17 and 19 under 35 U.S.C. §103 as allegedly being unpatentable over Phillips '006 or Katayama et al. '534 in view of Moseley et al. '562. The Examiner admits that neither Phillips nor Katayama disclose forming a restrictor of plastic, and further that these references do not disclose the angles of the inner walls of the venturi, nor do they disclose the specific design values specified in certain of the claims. Since applicants' functions and desired results for their novel venturi restrictor and pulsation-absorbing flexible pipe sub-combination are nowhere taught or suggested in these patents, it staggers the imagination to figure out how one would optimize the values of applicants' invention based on Phillips or Katayama, since one would not know what they are trying to achieve or where they were going with these teachings relative to applicants' novel contribution to the art. Apparently Moseley et al. '562, which is a flow control restrictor designed to limit flow to a predetermined value when pressure reaches a given value in a shower head or in a conventional pipe coupling, is of no help since it is not intended to be applied in applicants' combination or environment, and indeed would render the applicants' system inoperable, as stated previously.

It is therefore respectfully submitted that these rejections under §103, as set forth above, are a prime example of the improper and oft-discredited "obvious to try" rejections, and are clearly in error both in fact and in law for the reasons set forth heretofore and hereinafter.

### **Applicable Law – 35 U.S.C. § 103 (a)**

Before discussing what is respectfully submitted as misapplication of the references by the Examiner to the application claims, standards for analysis of these references and application of the same to the invention also bear restating. As the CCA well stated in In re Carroll, 202 U.S.P.Q. 571, 572 (1979):

One of the more difficult aspects of resolving questions of non-obviousness is the necessity "to guard against slipping into use of hindsight." Graham v. John Deere Co., 383 U.S. 1, 36, 148 U.S.P.Q. 459, 474 (1965). Many inventions may seem obvious to everyone after they have been made. However, 35 U.S.C. 103 instructs us to inquire into whether the claimed invention "would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." Thus, in deciding the issue of obviousness, we must look at the prior art presented from a vantage point in time prior to when the invention was made, and through the eyes of a hypothetical person of ordinary skill in the art.

The standard of Section 103 is thus not what could be read into the reference having applicant's disclosure and claims in mind.

It is difficult but necessary that the decision maker forget what he or she has been taught at trial about the claimed invention and cast the mind back to the time when the invention was made . . . , to occupy the mind of one skilled in the art who is presented only with the references, and who is normally guided by the then-accepted wisdom of the art.

W. L. Gore & Assoc. Inc. v. Garlock, inc., 220 U.S.P.Q. 303, 313 (CCPA 1983). Each of the cited reference patents must be viewed for what it teaches the artisan who has in mind the problem to which applicant's invention is directed, but not applicant's solution to the problem. Unquestionably, such standards for review are often more easily stated than applied, particularly when applicant's solution is seemingly simple and straightforward when viewed with the benefit of hindsight. In re Carroll, supra; In re Spoke, 133 U.S.P.Q. 360, 363 (CCPA 1962); In re Marshall, 198 U.S.P.Q. 344 (CCPA 1978).

As to the aforementioned improper "obvious to try" type rejection, the commentary by Judge Ridge in the decision of the Court of Customs and Patent Appeals in the

case of *In re Tomlinson, Hall and Geigle*, 363 F. 2d 928 at 931, 150 U.S.P.Q. 623 at 626 (CCPA, 1966) is informative:

We agree with appellants that claims should not be considered in the abstract, particularly when the invention is the result of a selection or screening process. While the ultimate question, of course, is whether the invention defined by the claims is patentable over the art, frequently evidence on background and the circumstances surrounding the making of the invention is helpful in deciding that question. . . .Slight reflection suggests, we think, that there is usually an element of "obviousness to try" in any research endeavor, that it is not undertaken with complete blindness but rather with some semblance of a chance of success, and that patentability determinations based on that as the test would not only be contrary to statute but result in a marked deterioration of the entire patent system as an incentive to invest in those efforts and attempts which go by the name of "research". (underscoring added)

Accordingly, it is respectfully submitted that the Examiner has not established a *prima facie* case of obviousness under 35 U.S.C. § 103 (a) with respect to any of the remaining claims 1, 2, and 4-23 as amended by utilizing any one or more of the three references relied upon in the second Office Action relative to these claims.

To reiterate, it is respectfully submitted that the Examiner's stated rejection is tantamount to the "obvious to try" type rejection that has been clearly and repeatedly ruled improper under 35 U.S.C. § 103 by the Federal Circuit. The standard of 35 U.S.C. § 103 is not that it would be obvious for one of ordinary skill in the art to try to achieve the invention; indeed, disregard for the nonobviousness of the results of the "obvious to try" experiments disregards "invention as a whole" concept of § 103. See *in re O'Farrel* 7 U.S.P.Q. 2d 1673 (Fed. Cir. 1988); *Hybritech Inc v. Monoclonal Antibodies, Inc.*, 231 U.S.P.Q. 81 (Fed. Cir. 1986); *in re Antonie*, 95 U.S.P.Q. 6 (CPPA 1977).

In view of the foregoing, it is respectfully submitted that the Examiner has failed to articulate the requisite teaching, suggestion or motivation to modify or combine references with the ordinary skill in the art as required to render the claims at issue obvious under 35 U.S.C. § 103. Indeed, the references cannot be so modified or combined, based on their disclosure and without using hindsight, to produce the turbulence-reducing flow conducting conduit for a pressure fluid device coupling as set forth in claims discussed hereinabove. Thus, the Examiner has made no particular findings nor set forth the findings regarding the locus of the suggestion, teaching or motivation to modify or combine the cited prior art references with the person of ordinary skill in the art, as consistently as required by the Federal Circuit. Therefore, it is respectfully submitted that the Examiner has failed to present a *prima facie* case of obviousness of applicant's invention as now claimed in claims 1, 2, and 4-23 as amended.

To establish *prima facie* obviousness of a claim to an invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.P.P.A. 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 165 U.S.P.Q. 494, 496 (C.P.P.A. 1970). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. In re Fine, 837 F.2d 1071, 5 U.S.P.Q. 2d 1596 (Fed. Cir. 1988) (MPEP 2143.02).

As set forth in MPEP 2142, if the Examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness. Further, to establish a *prima facie* case of obviousness, three basic criteria must be met.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify

the reference or to combine reference teachings. Such is not present in the cited reference patents.

Second, there must be a reasonable expectation of success. Nothing in the cited reference patents would give rise to such an expectation.

Thirdly, the prior art references (or references when combined) must teach or suggest all the claim limitations. Clearly they do not.

The teachings or suggestions to make the claimed combination or modification and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q. 2d (Fed. Cir. 1991). The initial burden is on the Examiner to produce some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." (underscoring added) (MPEP 2142) citing Ex parte Clapp, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985). It is respectfully submitted that the present rejection clearly fails to meet the foregoing legal criteria.

#### **Conclusion – Action Page 5**

The prior art made of record and not relied upon, but found by the Examiner to be considered pertinent to applicants' disclosure, has been reviewed. It is respectfully submitted that such additional references are either not pertinent or, at best, merely cumulative to the

disclosures of the cited Phillips '006, Katayama et al. '534, Moseley, et al. '562 and Van Ruiten '981 referenced patents relied upon by the Examiner in his rejections.

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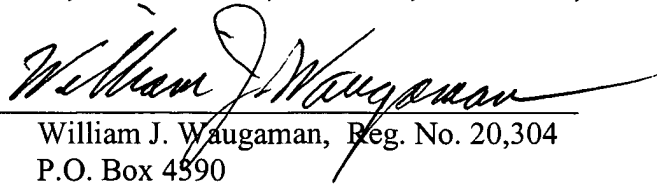
In short, none of the claims 1-20 as filed, and clearly none of the claims 1, 2 and 4-23 as herewith amended and/or newly presented are in any way "anticipated" by anyone of the cited referenced patents under 35 U.S.C. §102(b), nor rendered obvious under 35 U.S.C. §103 over any one or more of these patent references. Accordingly, in view of the foregoing amendments and Remarks, this application now appears to be in condition for allowance with claims 1, 2 and 4-23 as amended and/or newly presented, and such action is respectfully solicited.

Enclosed please find Check No. 8829 in the amount of \$100.00 for the two (2) additional dependent claims. If it is determined that any additional fees are due with this submission, the Commissioner is hereby authorized and respectfully requested to charge such fee to our deposit account No. 50-0852.

Respectfully submitted,

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disclosures of the cited Phillips '006, Katayama et al. '534, Moseley, et al. '562 and Van Ruiten '981 referenced patents relied upon by the Examiner in his rejections.

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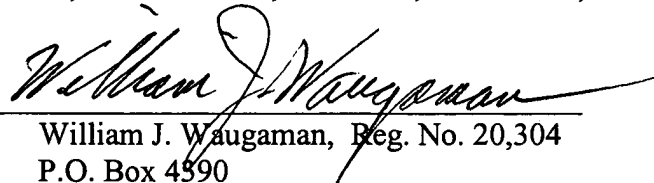
In short, none of the claims 1-20 as filed, and clearly none of the claims 1, 2 and 4-23 as herewith amended and/or newly presented are in any way "anticipated" by anyone of the cited referenced patents under 35 U.S.C. §102(b), nor rendered obvious under 35 U.S.C. §103 over any one or more of these patent references. Accordingly, in view of the foregoing amendments and Remarks, this application now appears to be in condition for allowance with claims 1, 2 and 4-23 as amended and/or newly presented, and such action is respectfully solicited.

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